

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331575-840

Luminaire Tested: **S122DIW-S865D1240U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331575-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D1240U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8534.8 lumens
Efficiency: N/A
Efficacy: 122.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

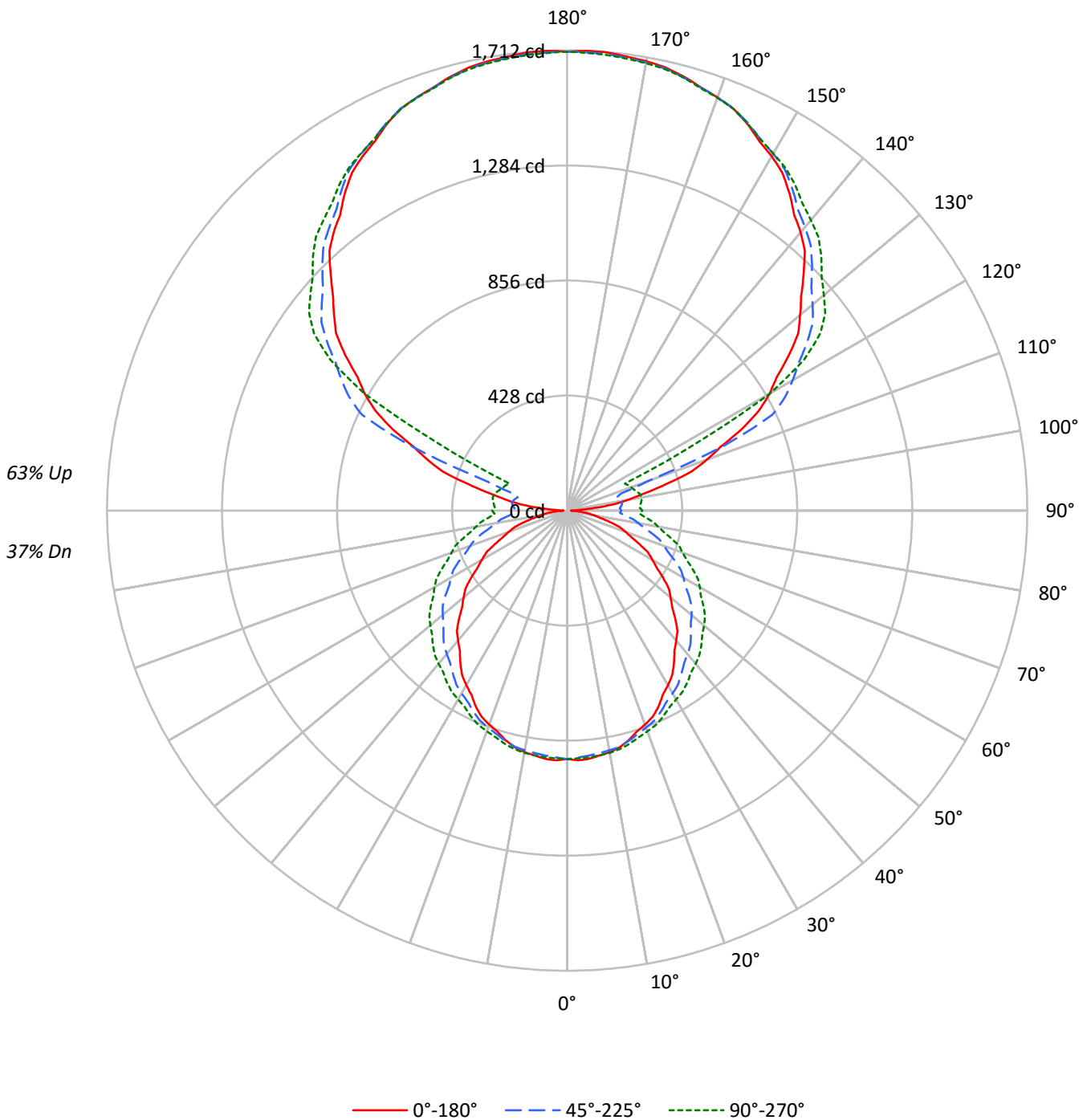
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P331575-840

CATALOG NUMBER: S122DIW-S865D1240U840-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	60	56	52	49	44	41	38	32	30	29	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	41	35	39	33	29	30	26	23	22	20	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	25	21	18	18	15	13	10
8	51	38	30	25	46	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	18	24	19	15	19	15	12	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.0
10°-20°	251.2	2.9
20°-30°	380.7	4.5
30°-40°	463.7	5.4
40°-50°	498.9	5.8
50°-60°	484.5	5.7
60°-70°	423.0	5.0
70°-80°	325.7	3.8
80°-90°	222.8	2.6
90°-100°	207.5	2.4
100°-110°	318.8	3.7
110°-120°	630.9	7.4
120°-130°	962.0	11.3
130°-140°	997.0	11.7
140°-150°	913.8	10.7
150°-160°	732.3	8.6
160°-170°	471.9	5.5
170°-180°	162.4	1.9
0°-30°	719.6	8.4
0°-40°	1183.3	13.9
0°-60°	2166.6	25.4
0°-90°	3138.1	36.8
90°-120°	1157.2	13.6
90°-150°	4030.0	47.2
90°-180°	5397.0	63.2
0°-180°	8534.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	15	106	202	259	280	13
95°	91	117	202	257	274	107
105°	382	439	191	249	271	409
115°	716	754	843	336	237	704
125°	1007	1026	1089	1133	1150	898
135°	1244	1264	1288	1327	1337	961
145°	1442	1442	1461	1477	1479	902
155°	1587	1578	1591	1598	1589	731
165°	1673	1666	1669	1677	1669	472
175°	1711	1703	1705	1712	1701	163
180°	1707	1707	1707	1707	1707	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.6	44.8	63.2	81.6	99.9	118.9	138.4	157.8	177.3	196.8	209.2
90°	14.6	34.9	55.2	75.5	95.8	116.5	137.8	159.1	180.4	201.6	214.9
92.5°	37.3	53.1	68.9	84.7	100.5	118.2	137.5	157.0	176.4	195.9	208.2
95°	91.0	95.9	100.9	105.8	110.8	123.1	142.9	162.7	182.5	202.3	215.0
97.5°	168.7	155.6	142.6	129.5	116.4	120.7	142.3	163.9	185.5	207.0	219.1
100°	228.0	201.5	174.8	148.2	121.7	119.1	140.4	161.8	183.1	204.4	217.6
102.5°	292.2	294.3	296.4	298.5	300.6	290.2	267.4	244.6	221.8	198.8	212.5
105°	382.2	399.1	416.0	432.8	449.7	428.4	369.0	309.5	250.0	190.6	204.0
107.5°	486.5	500.0	513.6	527.1	540.7	510.0	434.8	359.8	284.8	209.7	216.7
110°	552.6	564.3	576.0	587.7	599.5	573.0	508.3	443.5	378.7	314.0	296.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	615.8	626.0	636.1	646.2	656.3	658.5	652.8	647.0	641.4	635.6	545.0
115°	715.7	723.6	731.5	739.5	747.4	761.5	781.8	802.0	822.3	842.6	724.5
117.5°	803.5	810.9	818.3	825.6	832.9	845.2	862.3	879.4	896.6	913.6	891.7
120°	868.8	874.0	879.4	884.6	890.0	901.1	918.0	934.7	951.6	968.5	980.1
122.5°	924.1	928.9	933.7	938.6	943.3	954.0	970.6	987.2	1003.8	1020.4	1030.5
125°	1007.0	1010.6	1014.1	1017.7	1021.3	1030.5	1045.2	1060.0	1074.7	1089.4	1099.3
127.5°	1083.4	1087.0	1090.7	1094.3	1097.9	1105.6	1117.2	1128.7	1140.3	1152.0	1162.1
130°	1131.8	1135.9	1139.9	1144.1	1148.1	1154.8	1164.1	1173.4	1182.7	1191.9	1202.0
132.5°	1181.1	1184.6	1188.0	1191.4	1195.0	1200.5	1208.4	1216.3	1224.1	1231.9	1241.4
135°	1244.1	1248.5	1252.8	1257.3	1261.6	1266.6	1272.0	1277.5	1282.9	1288.4	1297.4
137.5°	1309.1	1312.1	1315.0	1318.1	1321.1	1324.6	1328.8	1332.9	1337.1	1341.1	1349.3
140°	1351.5	1353.4	1355.3	1357.3	1359.2	1361.9	1365.5	1369.2	1372.7	1376.3	1383.6
142.5°	1387.2	1388.8	1390.5	1392.2	1393.8	1396.4	1400.1	1403.6	1407.2	1410.8	1416.8
145°	1441.6	1441.4	1441.1	1440.8	1440.6	1442.7	1447.4	1452.1	1456.7	1461.4	1465.1
147.5°	1490.3	1489.2	1488.2	1487.1	1486.1	1487.9	1492.5	1497.1	1501.8	1506.3	1508.0
150°	1522.0	1520.0	1518.1	1516.1	1514.2	1515.5	1519.8	1524.3	1528.6	1533.1	1534.7
152.5°	1548.6	1546.5	1544.3	1542.2	1540.0	1541.1	1545.2	1549.4	1553.6	1557.7	1559.4
155°	1587.4	1584.9	1582.5	1579.9	1577.5	1577.9	1581.2	1584.5	1587.8	1591.1	1592.8
157.5°	1617.8	1615.7	1613.6	1611.5	1609.4	1609.5	1611.8	1614.2	1616.5	1618.8	1620.6
160°	1635.6	1634.0	1632.2	1630.6	1629.0	1629.0	1630.6	1632.2	1634.0	1635.6	1637.2
162.5°	1651.4	1649.7	1648.1	1646.5	1644.8	1644.7	1646.1	1647.5	1649.0	1650.4	1652.2
165°	1672.6	1671.0	1669.3	1667.7	1666.1	1665.7	1666.5	1667.3	1668.1	1668.9	1670.8
167.5°	1688.5	1686.8	1685.2	1683.5	1681.8	1681.4	1682.2	1682.9	1683.7	1684.5	1686.4
170°	1697.4	1695.7	1694.0	1692.4	1690.7	1690.2	1690.7	1691.3	1691.8	1692.4	1694.4
172.5°	1703.2	1701.6	1700.0	1698.3	1696.7	1696.2	1696.7	1697.2	1697.8	1698.3	1700.2
175°	1710.9	1709.0	1707.1	1705.2	1703.2	1702.5	1703.1	1703.6	1704.2	1704.8	1706.7
177.5°	1712.1	1710.6	1709.1	1707.6	1706.0	1705.4	1705.6	1705.8	1706.0	1706.3	1707.8
180°	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	221.7	234.1	246.5	254.7	258.6	262.6	266.5	270.3
90°	228.1	241.5	254.7	263.5	267.5	271.7	275.8	279.9
92.5°	220.7	233.1	245.4	253.6	257.5	261.4	265.3	269.2
95°	227.6	240.3	253.1	261.1	264.3	267.6	270.9	274.2
97.5°	231.3	243.4	255.5	263.5	267.3	271.1	275.1	278.9
100°	230.9	244.1	257.3	265.8	269.6	273.5	277.3	281.0
102.5°	226.2	239.8	253.5	262.3	266.3	270.3	274.4	278.4
105°	217.5	231.0	244.4	253.3	257.6	262.1	266.4	270.7
107.5°	223.6	230.6	237.5	243.2	247.5	251.9	256.2	260.6
110°	278.1	260.2	242.3	235.5	239.9	244.3	248.6	253.1



TEST NUMBER: P331575-840

CATALOG NUMBER: S122DIW-S865D1240U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	454.3	363.8	273.2	229.9	234.1	238.2	242.4	246.5
115°	606.2	488.1	369.9	302.6	286.1	269.6	253.2	236.6
117.5°	869.8	847.9	825.9	784.0	722.1	660.1	598.2	536.3
120°	991.8	1003.4	1015.0	1003.9	970.2	936.3	902.6	868.8
122.5°	1040.5	1050.6	1060.7	1063.5	1059.1	1054.7	1050.4	1045.9
125°	1109.3	1119.3	1129.2	1136.0	1139.5	1143.0	1146.5	1150.0
127.5°	1172.3	1182.5	1192.7	1199.1	1201.9	1204.7	1207.5	1210.3
130°	1212.2	1222.4	1232.5	1238.7	1240.8	1242.9	1245.1	1247.2
132.5°	1250.9	1260.4	1269.9	1275.7	1277.8	1279.9	1282.0	1284.1
135°	1306.4	1315.3	1324.3	1329.8	1331.6	1333.4	1335.2	1337.1
137.5°	1357.5	1365.6	1373.8	1378.5	1379.5	1380.6	1381.7	1382.8
140°	1390.8	1398.1	1405.3	1409.2	1409.6	1410.0	1410.4	1410.8
142.5°	1422.9	1429.0	1435.0	1438.1	1438.4	1438.6	1438.7	1438.9
145°	1468.8	1472.5	1476.2	1478.1	1478.2	1478.3	1478.4	1478.6
147.5°	1509.6	1511.4	1513.0	1513.6	1513.2	1512.8	1512.3	1511.9
150°	1536.3	1538.0	1539.6	1539.7	1538.4	1537.0	1535.6	1534.3
152.5°	1561.0	1562.7	1564.4	1564.3	1562.5	1560.6	1558.8	1557.0
155°	1594.4	1596.1	1597.7	1597.4	1595.2	1593.1	1590.8	1588.6
157.5°	1622.6	1624.4	1626.3	1626.1	1624.0	1621.8	1619.7	1617.5
160°	1638.9	1640.5	1642.1	1642.0	1640.1	1638.2	1636.3	1634.4
162.5°	1654.2	1656.0	1657.9	1657.6	1655.3	1652.8	1650.5	1648.2
165°	1672.7	1674.7	1676.6	1676.6	1674.7	1672.7	1670.8	1668.9
167.5°	1688.3	1690.2	1692.1	1691.9	1689.4	1687.0	1684.5	1682.0
170°	1696.3	1698.2	1700.1	1699.8	1697.4	1694.9	1692.4	1689.9
172.5°	1702.1	1704.0	1706.0	1705.8	1703.2	1700.8	1698.3	1695.9
175°	1708.6	1710.5	1712.4	1712.0	1709.3	1706.6	1703.7	1701.0
177.5°	1709.3	1710.8	1712.4	1712.1	1710.2	1708.2	1706.3	1704.2
180°	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2

(END OF REPORT)